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ABSTRACT

A literature review examined how literacy programs can assess their effectiveness by looking at outcomes and using this information. Very few empirical studies showed the impacts of literacy programs or identified predictors of program success. One reason was the lack of common criteria for evaluating performance. One evaluation issue was whether the same measures should be used to assess both individual progress and program effectiveness. Results of the U.S. National Evaluation of Adult Education Programs (NEAEP) showed that using the same types of measures across programs allowed discovery of what program components most affected outcomes. The NAEAP study was also used to investigate research on variables assumed to be linked to program effectiveness. According to the study, the strongest predictors of retention were support services, instruction during the day, and type of learning environment. Age was not a barrier to acquiring literacy and increased hours of instruction were not sufficient to ensure increased skill development. Literacy skills were not easily transferred between workplace and general literacy programs; family literacy programs had potential for both adult and child literacy. Questions for further outcomes-based research were suggested, including the cost benefit of putting limited resources into instruction rather than outreach, maintenance of learner motivation, and instructor training. (Contains 31 references.) (YLB)

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ED 399 423

The Effectiveness of Adult Literacy Education:

A Review of Issues and Literature Related to Outcome-Based Evaluation of Literacy Programs

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prepared for the

Ontario Literacy Coalition

by

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February 1996

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Executive Summary

Introduction

This report looks at issues and research associated with demonstrating the effectiveness of adult literacy programs. The report is divided into three sections. Section One discusses the need to assess program outcomes. Section Two reviews research on variables affecting the outcomes of literacy programs. Section Three provides the report's conclusions and recommendations.

Section One

There are very few empirical studies that show the impacts of literacy programs or identify predictors of program success. One reason, among many, for the lack of hard data on outcomes, is the lack of common criteria for evaluating performance. Literacy educators are likely to emphasize process rather than results; consequently, knowledge and ideas about literacy practice stem primarily from shared values and anecdotal evidence. This report makes the case that literacy practitioners, students and policy makers all would benefit from reliable data on outcomes.

Section One looks at approaches to the evaluation of programs and student learning, and recent work that has been done in the area of outcome-based education. Results of the U.S. National Evaluation of Adult Education Programs (NEAEP) study, a recent large scale study of programs, are reported.

Section Two

This section looks at research on variables which have been assumed to be linked to program effectiveness, including: student retention and attendance, the amount of time it takes adults to acquire or improve their literacy and the impacts of program structure and design on different types of learners. The NEAEP study is a major source of information in this section.

According to the NEAEP study, the strongest predictors of retention are:

- the presence of support services (such as counseling);
- instruction during the day when more time is available to learn; and
- the type of learning environment (such as participation in a learning lab or independent study in addition to classroom learning).

As for learning time, the study found that:

- age is not a barrier to acquiring literacy. Adult learners are as adept at acquiring literacy as children but it takes longer. They may, however, acquire fluency more slowly than children.
- increasing hours of instruction is not sufficient to assure increased skill development. This is further complicated by the need for practice after skills are acquired.

Regarding program structure and design, the NEAEP study found:

- program goals are easier to define for more targeted, "contextualized" programs, such as family literacy or workplace programs. The practicality of such programs is also appealing to funders (i.e. employers, school districts).
- literacy skills are not easily transferred between workplace literacy programs, for example, and general literacy programs. This fact has led an increasing number of funding agencies and providers to develop targeted programs.
- targeted programs are motivating because of a direct relevance to the learner's situation (i.e. the promise of a job, a promotion or some other recognition).
- the amount of time needed for skill improvement may be decreased by half when targeted programs use materials learners use in everyday work.
- family literacy programs, using children's books, etc., appear to have great potential for both adult and child literacy. There is high motivation and natural opportunities to practice skills acquired. The need for more evaluation research on family literacy is noted.

Finally the report addresses other factors that can affect learners. These include: instructors, support services, program structure, program costs and learner characteristics themselves. Only one variable has been found to be "consistently and substantially" related to literacy gains for all types of learners: the learner's own prior achievement level.

Section Three

This section poses a variety of questions which need to be answered based on further outcomes-based research, including:

- Would there be more of an impact by putting limited resources into instruction instead of putting more effort and money into reaching out to the majority of those not getting literacy training?
- How can literacy programs maintain learner motivation?
- Should more targeted programs be offered instead of general literacy programs?
- What kind of training should instructors have?
- Under what circumstances does class/group size matter?

Preface

The Ontario Literacy Coalition (OLC) is committed to improving levels of literacy among adults in Ontario. OLC believes that the strategy most likely to result in increased adult literacy levels is to make adult literacy programs available, accessible, and effective. This report, examining issues and research related to assessing the effectiveness of adult literacy programs, was written to support the advocacy and field development work of the OLC as well as the work being done by other groups who share our commitment to adult literacy.

Service providers face unprecedented challenges associated with sustaining services that rely on public funding. Deficit reduction is a top priority of both federal and provincial governments. The provincial government of Ontario is committed to stimulating private sector activity and reducing the size of the public sector. In this context, all programs in Ontario that rely on public funds are vulnerable to the possibility of drastic funding cuts or even elimination. Which programs will survive? How will adult literacy programs fare? What can literacy practitioners and the Ontario Literacy Coalition do to increase the survival odds of adult literacy programs in Ontario?

Survival in the 1990's

To date, there has been no clear statement from government explaining the criteria being used to decide which programs to cut. When speculating about the future of literacy programs, the best we can do is: consider what we have learned so far from recent meetings with MPPs and senior bureaucrats and try to put ourselves in the shoes of the decision makers and think the way they do. When we do this, the survival of any government-funded program seems likely to be tied to three considerations:

- the extent to which a program or service is viewed as *befitting the role of government*;
- the extent to which a program or service *targets a need* which is *recognized* by government *and* is seen as being *tightly linked to the government's agenda*; and
- the extent to which the government believes that *the program or service being delivered actually addresses and ultimately reduces the need*, as this government understands that need.

Measured against the first two of these criteria, the survival odds for adult literacy programs look pretty good - at least in the short term. The provincial government's responsibility for basic education is clearly established in law, though its responsibility for adult students is not. In addition, many signs point to a devolution of responsibility for adult training from the federal government to the provinces.

With respect to Ontario's adult literacy issues, we have the impression that many members of this government currently:

- believe that there is a serious adult literacy problem in Ontario; and
- believe that this problem is critically linked to the government's commitments to reduce the deficit, stimulate the economy and get people back to work.

One concern is that this government may subscribe to too narrow a view of the connections between literacy and the government's priorities - focusing nearly exclusively on the links between literacy and labour force development issues. In all our contacts with decision makers, OLC highlights the equally vital connections between literacy and other issues on the government's agenda. To help us do this, we have developed a series of fact sheets to document these links. For example, a fact sheet on literacy and health highlights research that shows increased health problems (and thus higher health care costs) for adults with low literacy skills. Another fact sheet on the intergenerational cycle of literacy highlights research on the impact of parents' literacy levels on the academic performance of their children. Similar fact sheets have been developed showing the relationships between literacy and: crime and incarceration; safety and accidents; and the ability of seniors to live independently. *Copies of these fact sheets may be obtained from OLC or from the nearest regional literacy network.*

A second concern regarding long-term survival for literacy programs is related to challenges associated with demonstrating the effectiveness of adult literacy programs. More than ever before, politicians and members of the public who are not directly involved in literacy work are challenging us to provide evidence that Ontario's literacy programs increase the literacy skills of adults.

Quality Standards Are a Start

The Quality Standards Framework for Literacy Programs, developed in consultation with literacy practitioners across the province and adopted by the Board of Directors of the Ontario Training and Adjustment Board, provides an important starting point for assessing programs against a common yardstick. Two out of 18 quality standards call specifically for evaluation of student learning and/or program effectiveness (i.e. standard 8 calls for on-going evaluation of learner's progress; standard 18 states that the program will evaluate its effectiveness annually). Neither of these, however, explicitly calls for systematic measurement of increases in the *literacy* and/or *numeracy skills* of students. Other standards reflect the conventional wisdom held in Ontario regarding features of effective literacy programs.

This report suggests that reliable research on the links between these program features and actual student learning outcomes is needed before we can know whether the application of these standards actually correlates with the effectiveness of Ontario's literacy programs. In the current climate of diminished resources for public programs, there is reason to believe that the pressure to demonstrate the impacts of our programs will increase rather than abate. The literacy field's ability to offer such proof may have a major bearing on the long term survival prospects of adult literacy programs.

This report has been written to stimulate thought and discussion about how literacy programs can assess their effectiveness by looking at outcomes, how they can use this information to improve the effectiveness of their programs, and how this information can be used to inform decision makers about the value of adult literacy programs. Recommendations in this report represent the author's views and are not necessarily the position of the Ontario Literacy Coalition.

Section One

The Case for Outcome-Based Evaluation of Adult Literacy Programs

1.1 The Need to Know Outcomes

> Does adult literacy education have a positive impact on both learners and society? While the absolute validity of even the best research on the question is limited, together the various impact studies present a preponderance of evidence to the affirmative. Yet there are still many unanswered questions, and first and foremost among them may be the issue of impact itself. (Beder, p. 118).

This report looks at what and how literacy programs know about their impacts or outcomes, and how this information can be used to support and improve services. The report is divided into three sections. Each section is further subdivided under topic headings. The first section includes this introduction and looks at issues surrounding the evaluation of literacy program outcomes. The second section reviews research correlating program outcomes with specific client or program variables. The third and final section provides conclusions, recommendations for further work in the area of literacy program evaluation, and lists references cited in the body of the report.

What do we know about outcomes?

Few empirical studies examine the impacts of adult literacy programs.

Although adult literacy programs are neither new nor rare, far less is known about their outcomes than one would expect. Beyond some knowledge about the relationship between time invested and achievement, and the necessity for practice and application of acquired skills in order to retain them, we have very few empirical studies demonstrating the impacts of programs or reliable predictors of program success.

The literature states that an array of variables have bearing on the success of students in adult education programs, but many of these variables are un- or inadequately researched. Thus little empirical data exists to substantiate these hypothesized links, and recommendations to practitioners are, most often, based on guesswork and conventional wisdom rather than research findings. For example:

The adult education research community generally considers the inadequate preparation of adult education teachers and volunteer instructors to be a fundamental weakness of adult education services. There is little research literature, however, that identifies appropriate recruitment and training strategies (Office of Policy and Planning [ED], 1992, p. 200).

The same document makes the following claim, and cites the work of Kutner et al (1991) as support for the claim:

> Components associated with effective workplace literacy projects include the active involvement by project partners, active and ongoing involvement by employees . . (*Ibid.*, p. 201).

Literacy's conventional wisdom is based on shared values and anecdotal information, not empirical examinations to determine what works.

In fact, however, Kutner acknowledges that these components are based on research which is

> . . .limited to primarily descriptive studies. . . empirical data are not available to document the characteristics of effective workplace literacy programs. . . (Kutner, Sherman, Webb & Fisher, 1991, p. 25)

The conventional wisdom of literacy practice derives primarily from shared values, anecdotal information and descriptive accounts of practice rather than on empirical examinations of hypotheses about what works. While this conventional wisdom often gives rise to recommendations that are sound from the point of view of human relations, whether these recommendations have any strong or predictable links to program outcomes is largely unknown.

Why don't we know more?

Several factors explain why we don't know more than we do about the impacts of adult literacy programs and factors linked to program success. Lerche (1985) notes that:

> . . .one of the greatest problems facing the field of adult education. . .[is that] literacy educators generally share

> no common criteria for evaluating their performance. Standards of success range from such limited though concrete definitions as the numbers of students served to such broad and vague definitions as making fundamental changes in people's lives. . . .(p. 230).

The lack of comparability of results of literacy programs makes it very difficult for practitioners or researchers to confidently identify characteristics associated with effective practice in adult literacy education.

Another reason why we know less about program outcomes than we might is that there has been relatively little systematic outcome-based evaluation of adult literacy programs. In this regard, adult literacy programs have much in common with other education programs.

A comprehensive review of evaluation practices across Ontario's education system (Kindergarten through Grade 13) reveals that educators strongly prefer process-based evaluation over outcomes-based evaluation.

> Focusing on the results of teaching has been deemed to be impossible, impractical, or impolitic. Indeed (this) point of view is amply represented in the literature (Hayman and Sussman (1986) p. 90).

There are a variety of explanations for why little attention has been paid to assessing outcomes, so far.

Some reasons given for eschewing outcome-based evaluations in regular primary and secondary divisions also apply to adult literacy education. These include: the belief that learner outcomes are often more influenced by factors beyond the control of the program than by what programs or teachers do; the belief that standardized measures of student learning (often employed in outcomes-based evaluations) are too narrow a gauge of what students know and fail to measure the things we care about most (i.e. aspects of problem solving, the ability to synthesize and interpret different kinds of information, creativity); and the belief that instructors will start to "teach to the test" instead of teaching to meet the needs of the student, where standardized tests of learning are used as the measure of success.

Nevertheless, recent literature suggests that an outcomes (or results) based orientation to adult literacy program evaluation is increasing at this time. This represents a significant shift in an area where evaluation efforts, until now, have been largely input (or process) oriented.

There has been more and better outcome-based evaluation of workplace literacy programs than of any other sort, in part, no doubt, because employers, acting as co-funders, have been insistent upon seeing documented results. As well, it is probably easier to specify outcomes in a work setting, where absenteeism, accident rate, and productivity rates are routinely measured. But even in this area, good evaluation is the exception, not the rule, if high standards are applied:

There has been more outcome-based evaluation of workplace literacy programs than of any other sort, because employers insist on seeing the results of their investment in training.

> Although federal and private support funds thousands of workplace literacy programs, very few programs have been evaluated beyond a superficial level. . . . Typical workplace literacy program evaluations involve anecdotal reports, learner satisfaction questionnaires, or pre- and post-results from a standardized basic skills test such as TABE or ABLE (Mikulecky & Lloyd, 1993, p. 53)

In fact, the array of evaluative instruments, described here as "superficial", extend well beyond what are employed in the majority of adult literacy program evaluations.

Only a minority of literacy programs consistently measure learners' levels at the beginning and end of the program, whether on specific competency measures or on general literacy skills. Many service providers are reluctant to divert scarce dollars away from service provision to program evaluation. Further, many adult literacy practitioners are concerned that learners, often veterans and victims of school failure, will be put off by experiences that remind them of that failure and will be discouraged or discomfited by anything that smacks of testing. There is particular reluctance to the use of standardized literacy tests which yield results in terms of school grade level, using terms which are inevitably very discouraging to adult learners (i.e. reading at grade 5 level). As well, the strong commitment of

many practitioners to provide learner-centered programming makes some reluctant to impose anything (i.e. testing) that the client has not expressed interest in.

In some cases, literacy providers simply delay assessment until clients are more comfortable with the literacy class or environment; in others, it is never scheduled, or never happens. The informal nature of many adult literacy programs, which often attempt to accommodate learners by allowing them to enter and to leave the program at any point during the year, and the high dropout rate that so many programs experience, means that it is very difficult for instructors or tutors to find the opportunity to administer assessment measures individually, or to know when the client is, in fact, present for the last time.

Last but not least, few literacy providers are experienced with evaluation methodology. As a result, local program evaluation efforts are often diluted to the point that, if there are any outcome data, they tend to be of questionable reliability and validity.

The consequences of not knowing

Practitioners need empirical information about what works best, in order to help them make decisions about the approaches they will use.

The consequences of not having reliable program outcomes data at the local program level are that teachers and tutors are left with no alternative but to operate on the basis of what they feel they know about what works. They may ask learners what strategies work best for them, or feel most comfortable to them. They will observe, anecdotally, which sessions seem to be most productive, and may alter their methods based on their observations. And they may consult with their peers, who in turn will offer advice based on their own personal experiences and hunches. Reflection on personal experience and intuition are undeniably important data sources; nonetheless, practitioners also need empirical information about what works best, in order to help them make decisions about the approaches they will use.

Advocates need outcome data to persuade others of the value of literacy programs.

Students need objective information on outcomes to decide whether time invested in a particular program has been well spent.

The lack of outcome data also makes it more difficult to communicate about the value of their efforts to funders or the larger public, in a way that is convincing. While there may be little doubt in the public mind that literacy is important, there is often considerable doubt whether particular programs are successful in increasing literacy, or in doing so with a reasonable degree of efficiency.

Some writers also suggest a cost for the client who lacks but would value some evidence of her/his increased literacy beyond what s/he can observe. A client may know that s/he can read a text that formerly was not comprehensible, but may want to know whether that increased ability is sufficient to enable her/him to apply successfully for a job, get a driver's license, or whatever. S/he may also want objective data about his or her learning in order to measure whether the time invested in a particular literacy program has been well spent, in order to decide whether to continue in the same program or look for a different one.[1]

The lack of knowledge about what kinds of programs are successful for what kinds of clients, and why, is highly problematic at the macro level where delivery systems and related policies are developed and monitored. Do smaller classes make a difference to general literacy learners? To workplace literacy learners? Are certain materials associated with more rapid gains for ESL literacy learners or ABE learners? Do instructors with a particular kind of training/experience appear to be more successful with family literacy or general literacy groups? Are community-based literacy programs as effective as those delivered by educational or other institutions? How can

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1. It has also been suggested that:

> Lack of experience with testing may underestimate the achievement of adults. When neoliterates were given testing practice, which children get in schools, their performance improved significantly (Abadzi, p. 10).
>
> This may or may not be equally applicable to learners who have attended school as children, but have not had recent testing experience, as to those who have never attended school, who are the referents in the above quote.

funders assist providers to be more effective and efficient?

Answers to questions like these are needed to advance our knowledge of how to provide effective and efficient programs; how to best assist adult learners and best use public funds. The need for outcomes-based data is more acute at the macro level of analysis and planning than it is at the local level, while it is also more difficult to obtain the necessary information. Not only is evaluative data needed from individual programs, but some of it must be the same data so that comparisons between programs can be made. In order to know whether Program A (or some component thereof, such as its instructional method, or materials) gets better results than Program B with older literacy learners, for example, information is needed from each program based on the same measure.

1.2 Which Outcomes? How Measured?

Outcomes-based evaluation measures are usually based on the goals of the program. What difference did the program intend to make? Did it make that difference?

At the micro level: evaluation of individual programs and student learning

In outcomes-based evaluation, programs are usually assessed in terms of their goals. A family literacy program may look at parental attendance at school meetings, or how regularly parents read with their children. Such measures are collected before and after, at the beginning and at the end, of the program, and the difference is taken to represent the effect the program has had on the desired ends. (Ideally there would be a comparison group of people who did not participate, such as parents on a waiting list; but such an ideal is seldom realized.)

A workplace program may measure success in terms of decreased absenteeism, or the number of employee/learners who have applied for higher level jobs within the organization. A secondary school diploma equivalent program can look at how many grade levels a learner has progressed, or how many credits s/he has acquired. Community programs, often organized on an individual basis, will look at the achievement of a learner's goals: to be able to pass the driver's test, or to fill out bank forms, or whatever.

In recent years, some work has gone into describing outcome-based evaluation strategies that can be applied to individual adult literacy programs. For example, Mikulecky, Henard and Lloyd (1992) published a Guidebook for developing workplace literacy programs. In the model workplace literacy program they worked with, the outcomes of interest were related to beliefs about literacy, literacy practices at home and at work, literacy abilities and processes, literacy plans, and productivity on the job. Additional emphasis was placed on literary activities for learners who were parents.

In each of these five to six areas, pre- and post-measures were given, with before and after results compared statistically. In addition, separate comparisons were made for each of three distinct program content groups (the report writing group, the promotions group, the family literacy group), so that outcome data would be particular to each of the three groups. Thus, they

were able to show, for example, that as far as changes in literacy beliefs were concerned, there was no change in learners' view of what makes a literate person; but there were significant positive changes in learners' view of themselves as literate in two of the three groups.

Measures of beliefs, practices, and plans were based on self-report, in which learners responded to interviewer questions created by the evaluators, such as "Tell me the sorts of things you read and write on the job/away from work during a normal week." These items were created specifically for this particular program evaluation.

Productivity was measured by work attendance, changes in job status, samples of employee written reports, and a survey of class participants. Except for the last, these were not self-report measures. Attendance, for example, was measured one month before class, during class, and one month after. (Such measurement is obviously more possible in a workplace program, where there is some stability in access to records over time.) Similarly, the report samples were collected before, during, and after class, for analysis. Measures like absenteeism are standard, and can be compared not only before and after a program, but across programs.

In a cloze test, every fifth word is omitted from a passage of about 150 words, and learners fill in the blanks

The evaluators argue that workplace literacy programs, which differ significantly from general basic skills programs, need to measure the types of literacy gains that result from specific workplace-tailored programs. They devised a set of questions based on materials used on the job (which were also the materials on which instruction was based), so that learners had to show their comprehension of the text by finding the answers within it. (Learners were told what page to look at, and had to extract the answer from what they found on the page.) Some questions were of the multiple choice variety, others had only one correct answer. The evaluators also used the same materials to construct a cloze test, where every fifth word is omitted from a passage of about 150 words, and learners fill in the blanks. This test was also based on texts the learners actually use on the job.

Good outcome-based evaluations include measurement of objectives like change in beliefs, attitudes and self-image, or in work- or home-related literacy practices.

They also include the measurement of literacy gains.

This evaluation scheme includes a variety of sources of data. Self-report data, appropriately collected in interviews before and after the intervention, is balanced by objective data on productivity and literacy gain. Such an evaluation scheme would tell learners and program providers what degree of gain/success was associated with their efforts/activities. But, except perhaps for absenteeism, the measures are non-standard, and it would be very difficult for anyone to decide whether other workplace literacy programs being offered were more or less successful than these, unless they deliberately adopted the same measures. Among the three programs under scrutiny in this one study, however, such comparisons could be made, because the measures were common ones. And any other group of providers of workplace literacy programs, for example all those within a particular geographic region, could jointly design measures in common. Thus, a cloze test of the same length, and scored in the same way, based on texts at the same level of difficulty, could be used by different programs, even if the exact text used in each program differed, based on the particular materials used in each program.

Good program evaluation models, such as the workplace model developed by Mikulecky and others and described above, are not narrow in focus, and they do not exclude measurement of objectives like change in beliefs, attitudes and self-image, or in work- or home-related literacy practices. But neither do they omit the measurement of literacy gains, whether standardized general literacy tests or purpose-designed context-based tests are the measure.

Another issue in evaluation is whether the same measures should be used to assess both individual progress and program effectiveness. It is certainly possible and efficient to make one measure or set of measures serve two purposes, as when individual gain scores are examined as a measure of how much benefit was derived from the course by the learners. On the other hand, there are advantages to using different tools for individual assessment and program evaluation, despite the extra work involved. First, clients can be reassured that the program evaluation measures are not about individual achievement or ability, and are thus likely to feel less anxious

Standardized measures can be used for program evaluation only, and not reported for individual students. This would reduce the risk of students feeling discouraged or threatened by testing, without sacrificing the need to have standardized assessment for program assessment.

and to be more successful (see the work of Steele). Second, the goals of the program may be several, in addition to general literacy (such as reduced absenteeism, increased participation in school meetings, etc.), and as such pertain to the program, not the individual. As one writer clearly states,

> Many of the problems with standardized testing experienced by programs are due to the attempt to use one test for both program accountability and instructional decision making. For instance, using the Test of Adult Basic Education (TABE) for pre and post-testing to report gains in general literacy to state and federal administrators is a program accountability function of the tests.
>
> But using the TABE to assess learning in a specific literacy program, in which learners may choose to read and study a technical manual, is an inappropriate use of the test for assessing either instructional needs or progress. In this case, an alternative assessment method is needed, perhaps one in which learners' needs are determined by interviews that include trial readings of technical manual passages. Then, progress checks using reading aloud and question/discussion periods for checking comprehension might be used to indicate learning in the program. (Sticht, 1990, p. 28)

With many standardized literacy measures, test scores are interpreted as grade level equivalents, and this makes them discouraging to learners. If such measures are used for program evaluation only, and not reported individually, such discouragement is avoided, without sacrificing standardized assessment of literacy for reasons of program assessment.

Learners need to develop specific, workable instructional goals so that there can be immediate results. Being able to say "I can read these signs now" or "I'll be able to read all these directions in a few weeks" is far better for morale than having to wait a year or more to be able to say, "Now I can read at the (fifth)-grade level. Most adult learners do not want to express their learning goals in terms of elementary school grade levels,

and instructors should honor their preferences. (Lord, 1994, p. 16).

At the macro level: advancing our knowledge of what works

Presumably all literacy programs have in common the goal of increasing their students' ability to read and write (and sometimes to do basic mathematics), almost always in the language of the majority. (There are some ESL programs whose goal is to help learners become literate in their own mother tongue, usually as a stage on the way to English literacy.)

Measures that can be applied across a number of programs make it possible to identify the system-wide changes likely to result in improved adult literacy practices.

Hence, it is suggested that all programs need to measure the extent to which each of their clients improves her/his reading and writing (and perhaps also listening and speaking) skills while enrolled in the program. Such assessment would be necessary at entry, as a diagnostic on which to plan the learner's program; it might be necessary at some set intervals to check on progress and comprehension; and it would be necessary at exit to inform the program providers about the effectiveness of their procedures.

General measures that can be applied across a number of programs are needed to help planners and policy makers identify what system-wide changes are likely to result in improved adult literacy efforts. If existing measures, such as those developed for the school-age population, or those already created especially for adult learners[2] are truly unsatisfactory, then new standard measures (such as the cloze test, with specific marking and reporting procedures) can and should be developed.

The recently published National Evaluation of Adult Education Programs (NEAEP, 1992 - 1994) was able to compare hundreds of programs because each one of them reported that it used one of two standard tests of general literacy designed for adults. Such comparisons enabled the evaluators to conclude that

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[2] A very useful discussion of the nature and value of standardized tests of adult literacy is found in Sticht, T. G. (1990).

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having full-time staff and individualized programming meant greater literacy gains for ABE learners, and that higher per client costs were associated with higher gains for ESL learners, giving program providers and funding agencies some evidence of the value of their investment. But, as the NEAEP reports, their sample was far smaller than it should have been, and as a result the literacy test gains, while they were in the expected direction, were not as helpful or conclusive as they had been expected to be.

> When the study was designed, the plan was to use the results of the analyses of reading achievement tests as the basis for this analysis (of the number of clients who were successfully served; that is, received sufficient literacy instruction to significantly reduce their literacy needs). However, programs were generally unable to provide valid pre- and post-test scores on clients participating in the study, and analyses of the relatively small number of achievement test scores do not support their use as indicators of literacy-needs reduction. Consequently, the time required for clients to move from one instructional level to the next was used as an alternative (Young et al, 1994, p. 41).

In fact, although there were about 18,000 learners represented in the programs surveyed, there was complete test data (pre- and post-) on only just over 600 of them. While instructional levels achieved could be a perfectly adequate measure if standardized, without standardization they do not provide a means of comparison. Is intermediate ABE the same in Program A as in Program B? What about advanced ESL Literacy? (In the NEAEP programs some of these levels were standardized, but some were not.)

The NEAEP data include very few community based programs. One smaller scale review, in the late 80s, looked at the outcomes of nine community based programs which volunteered to be evaluated. Ten criteria were chosen, but not every program chose to be evaluated on every criterion. Six looked at reading results, five at writing, and two at math. Three of the six showed gains in reading, two of them large gains; one of the five

showed gains in writing; and one of the two showed math gains. Two programs showed significant gains in community activities and contributions made by learners; seven of nine showed measurable gains in self esteem; and three of seven showed significant gains in "self determination" (self direction, planning, persistence, etc.).

A reviewer of this data concludes that:

> . . .on the standard measures of impact, such as reading and mathematics gain, community based programs compare favorably with traditional ABE programs. (Beder, 1991, p. 118)

Of course, other goals in addition to general or contextualized literacy can (and probably should) also be measured in comparable ways across programs. Programs which aim to affect family/intergenerational literacy, for example, can ask questions like "In the last 7 days how many times have you read/looked at books with your child or listened to him/her read?" "In the last 7 days how many times have you helped your child with homework and/or with school projects?" (See Mikulecky & Lloyd, 1993a.) The answer is numerical, on a scale of 0 to 10+. If such questions are asked at the beginning and end of programs, comparisons can be made across programs which can tell us something about what program components most affect family literacy.

Using the same types of measures across programs allows us to find out what program components most affect outcomes.

But whatever measures are used to evaluate programs, it is probably true that without some measure of literacy gain which is not based on self-report, program evaluation is incomplete and inadequate.

> . . .while . . .alternative methods [of assessment] are invaluable for their contributions to learner progress, there are limitations to the exclusive use of such techniques for learner and program evaluation . . .
>
> One of the problems identified by alternative assessment providers is the fact that, although standardized, nationally normed tests fail to match program content,

> administrators, teachers, and millions of other adults can and do perform very well on any or all of the dozens of standardized tests of reading, writing, and arithmetic. . . . The question is raised, therefore, of whether or not adult learners in ABE and ESL programs are being directed to less demanding levels of achievement if they are not evaluated using standardized tests. (Sticht, 1990, p. 27)

An example of an evaluative comparison of three groups of adult literacy programs carried out in the absence of objective and standardized data is the Review of the Basic Skills, Community Literacy, and Basic Skills in the Workplace Programs (Woods Gordon, 1990). The programs were evaluated on the basis of interviews with and questionnaires to program providers, and a telephone survey of previous and current clients. Most of the report addresses inputs or process, rather than outcomes. Highlighting client and program characteristics, the report is useful in describing what goes on in the programs in some detail. In the section which addresses program effectiveness, there are discussions about varying perspectives and conceptual approaches, but there is in fact no data on literacy achievement, because no measure of literacy gains was employed. Nonetheless, apparently based on the fact that "Colleges spend considerable time on literacy instruction" (p. 76) and "Research has shown that. . . a significant amount of practice time actually *doing* reading and mathematics is required for gain to occur" (p. 75), the evaluators conclude that:

> The OBS [Ontario Basic Skills] programs are, in general increasing the basic skills of the workforce . . . (p. 89)

It is also reported that "Community groups [OCL programs) have trouble delivering sustained, long term training" (p. 77). This seems to imply they are necessarily less successful outcome-wise. Yet, in the learner survey, 47% of OCL participants said they felt they can read better as a result of their program, compared to only 13% of the OBS participants. All of this suggests that, in the absence of objective data on literacy achievement/gain, evaluators have difficulty arriving at valid conclusions for which they can offer solid evidence.

Literacy providers and learners have much to gain from the application of well thought-out and well-executed outcomes-based program evaluations.

Adult literacy programs exist to help adults who are less than sufficiently literate to become so. Successful programs, whatever else they may do, are those which accomplish this end for an appreciable percentage of their clientele. Literacy providers and learners have much to gain from the application of well thought-out and well-executed outcomes-based program evaluations, when evaluations are coupled with a real commitment to make effective programs available to learners.

Section Two

A Review of Research Linking Program Outcomes to Specific Client Or Program Variables

2.1 Introduction

> Despite the need to implement improved evaluation procedures and generate more substantial effectiveness data, there is much that we do know about what works, and we *have* identified successful practices and programs. (Lerche, Ibid., p.)

In this section we review research on the connections between characteristics of literacy programs and program outcomes. By far, the most comprehensive and ambitious attempt to describe the relationship between adult literacy programs and their results in terms of literacy acquisition, and to tie program characteristics to student gains, is the recently published National Evaluation of Adult Education Programs (NEAEP, 1992 - 1994). All U.S. government funded adult education service providers were surveyed, and data obtained from over 2600 programs covering more than 20,000 clients. Most of the programs were administered by local education agencies (69% of programs, 73% of clients) and community colleges (17% of programs, 18% of clients). Programs were divided into three types: ABE (Adult basic education), ASE (Adult secondary education) and ESL (English as a second language). Client and program characteristics were documented, as were test-based gains in basic skills, and other results (based on follow-up interviews). The NEAEP study gives us some indications about which features of literacy programs make the most difference for these three kinds of clients.

The study examined many of the issues with which North American adult literacy educators and researchers have been most concerned (*e.g.*, factors correlated with retaining students in programs; the relationship between retention and achievement; correlation between instructor qualifications, modes of instruction, and achievement). The NEAEP study will be a main point of reference in this section of the report, as we consider the following issues: retention of students in programs; the amount of time it takes for adults to acquire or improve their literacy skills; the correlation between other program variables with learning outcomes; and the correlation between client factors and learning outcomes.

2.2 The Retention Factor

The adult education literature places enormous emphasis on student retention and attendance (that is, the length of time students stick with a program, and how often they attend). This is because (1) retention and attendance rates tend to be very low; and (2) amount of instruction is believed to be directly and closely related to literacy acquisition. In the absence of data on actual outcomes in terms of learner gains, retention data have become a substitute for achievement data. It is assumed that the longer a student stays in a program, the greater the learning gains and the more effective the program. For this reason, we will look at data on retention in addition to that on achievement.

High drop-out rates are common in adult literacy programs.

Components of the program offered during the first month are crucial for long term persistence of students.

Very poor attendance and retention rates characterize adult literacy programs. Typical dropout estimates in North America and elsewhere are around 50%, plus or minus 20%. An Ontario study found a 38% attrition rate among enrollees in basic skills programs (Woods Gordon, 1989, p. xii). The NEAEP survey found that 15% of enrollees drop out before their course begins; almost one third of enrollees are gone before the end of the first month; and 44 per cent who begin leave within two months. Eleven per cent of all new enrollees continue into a second year of instruction. This suggests that the program offered during the first month is crucial for long term persistence. A similar figure is reported for non-attendance, described as a "harbinger of dropout", from as far away as Kenya, where the literacy programs with the best records of completion and achievement (urban) showed a 30% absenteeism rate, and those with the poorest (rural) a 50% absenteeism rate. (See Abadzi, 1994, p. 8.)

Why are dropout rates so high? It is clear that there are several reasons for the high dropout rate (as well as a high absenteeism rate) among enrollees. One reason suggested by research is students' frustration about the "enormous amount of time required to learn to read and about feelings of failure and depression during learning plateaus" (Chall, Heron, and Hilferty, 1987, p. 191). Learning ability does not decrease with age, but more time is needed. (See Balmuth, 1986, p. 36.).

A literacy acquisition rate which is natural and comfortable and socially acceptable for a child can feel like a snail's pace to an adult, who is trying to catch up with more literate peers as quickly as possible. This is particularly true, apparently, for adults who have a history of poor prior school performance, and who may have learning disabilities which substantially increase the amount of time needed to acquire literacy skills.

> . . . it was frustrating to attend school with the realization that, with the rate of progress they were making, it would take years and years to reach a point where their education would make any difference in the money they earned and in the way they lived. (Balmuth, p. 38)

Research on how much time it takes for adults to learn to read is examined more closely later in this report.

There is growing general agreement in the literature that with respect to retention of students, aspects of the programs are as important as are characteristics of the learners, as well as being much more amenable to change. This is a shift from earlier literature which tended to describe only learner and situational characteristics (poverty, lack of prior success in education, shifting employment opportunities), not program characteristics, in attempting to explain student attrition.

Essentially, most of the factors that were found in the NEAEP study to be substantial predictors of persistence are factors over which local programs have some control. For clients who had already attended at least 12 hours of adult education instruction, the explanation for sustained attendance lies primarily in factors related to program structure and design, rather than personal background or motivational factors.

According to the NEAEP evaluators:

> The strongest predictors of persistence across all . . . components [i.e. ABE, ESL, ASE] are as follows: the presence of support services that clients actually use, the receipt of instruction during the day as opposed to evening hours, and the type of learning environment in

which the clients participate. . .(Development Associates, 1994, p. 47)

Recommendations for literacy programming often include the provision of ancillary services, especially counseling, and the integration of such services, to improve client access. (See Balmuth, 1986; Lerche, 1985.) The NEAEP study indicates that about one quarter of clients used one or more of the support services provided by their program, counseling being the most commonly used. Those who used such services were more likely to remain in the programs longer; put differently, programs which provide useful services have clients who persist longer.

Clients in programs that provided five types of services or more received, on average, 115 hours (and 19 weeks) of instruction, whereas clients in programs that provided four types of support services or less received, on average, 60 hours (and 17 weeks) of instruction (Young, Fitzgerald & Morgan, 1994, p.p. 23/24.) The authors hypothesize that the availability of services such as counseling, financial assistance, transportation, child care, case management and other services may explain why some clients can sustain participation while others cannot.

The fact that day time rather than evening instruction is related to persistence is probably because day time attendance is associated with longer hours (evenings are shorter than days) and because time of attendance is related to employment or family characteristics.

Type of learning environment (classroom or lab or both), with or without a component of independent study, also makes a difference. For ESL clients, the inclusion of an independent study component or participation in a learning lab, in addition to classroom learning, predicts longer retention than a classroom only program. For ASE clients, the lab is important, but not the independent study. But for ABE clients, the contrary is the case: retention is longer for those in classroom only programs, which are more structured and possibly more nurturing for learners at the most basic levels.

Improved retention does not appear to be a consistent predictor of literacy acquisition.

But perhaps what is most important about the NEAEP findings on retention and persistence is that they do not provide unqualified support for what is the constant assumption in the literature, which is that whatever increases retention improves achievement. While it may be useful to document that the provision of support services improves retention, it does not appear that improved retention is a consistent predictor of literacy acquisition.

Some reviewers suggest that a high dropout rate should not necessarily be viewed as reason to substantially alter a program. Based on observations of literacy programming in developing countries, the authors conclude that "A 50 percent dropout rate is acceptable and does not necessarily indicate that materials and instructional design need improvement" (Abadzi, p. 10).

2.3 The Time Factor

Adult learners are as adept at acquiring literacy as children, but it takes longer.

Age is not an absolute barrier to the acquisition of literacy. Substantial improvement has been found to occur at all ages, and "age-related differences in cognitive abilities probably do not contribute to meaningful differences in either the efficiency or effectiveness of learning to read." (See Abadzi, p. 75) Within the adult population, age-related differences in literacy learning are apparently small, especially when contrasted with the differences within childhood (as between ages 6 and 18).

Adult learners are as adept at acquiring literacy as children, but it takes longer (see Balmuth, 1986, p. 36). It is equally true, however, that adult literacy learners actually progress faster per week/month of instruction than young children, possibly because the programs are more focused and concentrated than those presented in elementary school. Thus, while it may take an adult about 120 hours of instruction and practice to gain the equivalent of one year in measured reading level, the same one year gain represents many hundreds of hours over a school year for the average school child.

In a review of the evidence on age-related aspects of literacy learning, Abadzi (1994) cites studies which suggest that while adults acquire basic literacy (decoding, alphabetic skills) faster than children, they may acquire fluency more slowly, necessitating considerably more work and practice to move from simple decoding to a level of fluency that encourages use. Oral fluency in a second language may be acquired by adults much more easily than written fluency. (Much of this evidence is based on the experience of second language literacy learners, but may apply to first language literacy learners as well.)

Because it has seemed self evident that amount of instruction is related to literacy gain (Balmuth, 1986, p. 31), the capacity of a program to retain students and to maintain high attendance has been assumed to be related to its effectiveness in increasing literacy learning. The operative assumptions have been: the more hours the better; and, the longer the time period (the more weeks, months, years) the better. This latter rule is based on findings in psychology which indicate that it is better to

distribute learning (no matter what is to be learned) over time, rather than "mass" it together intensively. But the information available to substantiate the relationship and give it some exactitude has been largely lacking.

Therefore, although the figure of 12 hours as a minimum amount of instruction for progress toward literacy has been a criterion of federally funded programs in the United States, the NEAEP study finds essentially no systematic differences between learners with less than and more than 12 hours of instruction, suggesting that funding criteria may have little relevance to actual results or program potential.

Recent findings are filling in the essential details of how much instruction is enough, and for whom.

> No program . . . has been able to consistently improve reading ability from low level to high school or college standards in 20, 30, or even 50 hours (Mikulecky and Lloyd, 1993, p. 5).
>
> Thus, for low literate adults, it seems advisable to provide several hundred hours of practice with materials within the reach of the learner to insure that. . . transfer is obtained (Mikulecky, Albers, and Peers, 1994, p. 21).

The figure of about 100 to 120 hours is often cited as a typical time requirement for a one year gain in reading skills.

One fairly large scale study reported that when

> ...several hundred learners in a prework literacy program in 13 diverse sites . . . were tested for reading gains using the *Test of Adult Basic Education* (TABE), an average .7 of a year gain in reading ability after approximately 100 hours of instruction was demonstrated. (See Mikulecky and Lloyd, 1993, p. 4)

Another review concludes that:

> A significant amount of practice time actually *doing* reading and mathematics is required for gain to occur. [An average of about 100 hours per grade gain.] (Woods Gordon, 1989, p. 75)

The evidence from developing countries appears to suggest an even longer time period is necessary for the establishment of basic literacy among adults who lack all literacy skills: Abadzi (1994, p. 10), reviewing that literature, says that:

> Six month classes of 200 hours or less are often preferred for their lower costs but have high failure rates. Some studies suggest that the time allotment may be cut by as much as half in programs which are highly contextualized: where the goals, materials, and instructional methods are very close to the context in which clients will be applying their skills, as in many workplace literacy programs. (See Mikulecky & Lloyd, 1993, p. 5)

When pains are taken to test these various assumptions, the findings are less than unidimensional and simple. The NEAEP study found, as have several others, that ESL clients tend to complete more hours of instruction than ABE or ASE clients. In that study, the ESL clients received a mean of 120 hours of instruction, compared to 84 hours for ABE clients, and 63 hours for ASE clients. In the NEAEP study, a different test was used to measure achievement for ESL learners than for ABE and ASE learners. Hence it is not possible to compare ESL to ABE/ASE gains, in order to determine whether the longer number of mean hours of instruction of the ESL group is associated with larger learning gains, at the group level.

It is possible, however, to compare the ABE to the ASE group, because both groups were tested with the TABE at entry and exit from the programs. In fact, the ABE group, with its average of 84 hours of instruction showed an average gain of 15 TABE scale score points, a gain of 1.3 years in grade equivalency, compared to an average gain of 7 TABE scale score points for the ASE group, a gain of .8 years in grade equivalency, which averaged only 63 hours of instruction, suggesting that the

longer instructional period was associated with enhanced learning.

Another way of assessing how long it takes to acquire needed skills is to document the average hours required for clients to move from one to the next level of a course offered within an ESL or ABE program. The NEAEP found that the median hours needed to complete the beginning level ABE course was 32; for the intermediate level, 36 hours were needed. The time requirements for ESL were vastly larger: median hours to complete beginning ESL was 216, and for intermediate level ESL, 136.

Based on the research, policy makers or program providers cannot assume that simply retaining clients for more hours will result in greater learning gains.

But the NEAEP findings concerning hours of instruction and achievement are surprising also. When the relationship between hours of instruction and achievement gains was examined directly, it was found that the relationship was statistically significant only for the ESL group. That is not to say that all three groups did not make literacy gains; they did. But only in the ESL group could length of instruction time be said to have a direct effect on learning gains. For the ABE and ASE groups, other program characteristics were related to individual achievement, but hours/attendance was not.

While it may seem self evident that more instruction will result in more learning, the fact that a carefully designed, large scale study could document that relationship for only one of the three component groups (i.e. ESL) suggests that it is not reasonable for policy makers or program providers to assume that simply retaining clients for more hours will result in greater learning gains. Such gains need direct measurement. It may be perfectly true that many hours of instruction are essential to adult acquisition and improvement of basic skills; but it may be equally true that increasing hours of instruction is not sufficient to assure increased knowledge.

Furthermore, the issue of how much time is required to derive benefit from programs is complicated by the finding that newly acquired literacy skills are fragile: they are easily lost. Individuals who have completed literacy training programs may not retain their skills very long or at a level high enough to be

useful. Just as considerable time must be invested in practice to acquire literacy, so must practice continue after literacy acquisition, for maintenance.

Second language literacy and the issue of learning time

The NEAEP finds that ESL clients are both the largest and the most rapidly growing component of the adult education market. There are indications that this is also the case in Canada, especially in Ontario. But the ESL population is described monolithically. We apparently lack any solid data which speak to the presumably differing instructional needs of those who are literate in their first language, as opposed to those who are not.

There is reason to assume that the latter group will need more time to acquire literacy in English, but how much more time is simply not known. Conversely, one assumes that ESL learners who are literate in their first language will be able to acquire English literacy more quickly than English speaking adults who have not acquired literacy; but, again, there are no data which explore this relationship within the context of adult education. Most writers appear to assume that the majority of ESL students are not literate in their mother tongue, but no numbers are provided.

2.4 Program emphasis as a factor

While all adult literacy programs are trying to develop some of the same generic skills, programs differ in context and content. In addition to general basic skills/ESL programs, there are workplace literacy programs, family literacy programs, life skills programs, and others, each of which has a particular context, and materials appropriate to, indeed often directly derived from, that context.

Programs can also be contextualized by geography and clientele: for example, one might offer an ESL literacy program to Chinese speakers in a particular neighborhood, emphasizing local services and their access. In addition, programs can be organized around a variety of content areas, ranging from general learning programs emphasizing reading and writing in much the same way as is done in elementary school[3], to those which are highly contextualized, such as many workplace and family literacy programs. In the latter case, learners are presumably very directed in their motivation and expectation, and the materials are similarly focused.

In workplace literacy programs, the materials may be chosen because they are the same material the workers need to be able

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[3] On the issue of whether the same methods should be used with adult and juvenile literacy, the following is instructive:

> Research with adults learning to read shows that adult literacy students are more likely to approach reading through bottom up approaches [where comprehension is built up by accumulating smaller pieces, sound by sound and word by word] . . . ; when reading is viewed as a process of creating meaning, however, students are more likely to progress and learn to read at a faster rate . . . Many adults in literacy programs failed to learn to read using subskill approaches in the public schools, so it is possible that illiterate adults are a kind of selected sample. . . . Perhaps the most compelling argument for the interactive approach [combining bottom up methods with a top down approach which emphasizes the use of prior experience with concepts to construct the meaning of the text] comes from case studies in which instructors document their success using this approach with students with whom they had been unsuccessful with traditional bottom up approaches . . . (Fingeret, 1984, p. 13)

to read on the job. In family literacy, the content may be books parents would like to be able to read to their children, notices which the school sends home, school registration forms, and the like. One advantage of such contextualized learning is, presumably, that its purpose is very clear to the learners; and so is its achievement. One knows when one has mastered a particular manual or book; and if the mastery of that content piece is directly relevant to one's goal, its value is obvious. There are also advantages for program planners:

> Making principled decisions about program goals and implementation is often easier for programs receiving money targeted for a specific effort such as family literacy or ESL for the homeless than it is for those that are merely adding an additional literacy class to an existing program, because targeted efforts allow programs to begin with a clearly articulated philosophy of literacy teaching. (Wrigley, 1993, p. 2)

Furthermore, the practicality of the program is appealing to funders, such as employers and school districts.

The transfer of literacy skills between different contexts

Research on literacy transfer, that is the ability to transfer literacy skills from one context to another, suggests that such transfer is not easily made, beyond the most basic operations (such as eye movement across the page).

> . . .most studies reveal a relatively low degree of correlation between reading performance with different sorts of material requiring differing background knowledge and reading strategies. . . . Learning. . . mindful, high road strategies (i.e. summarizing, problem solving, studying, writing for multiple audiences, editing, etc.) does not appear to transfer. . . automatically. (Mikulecky et al, 1994, p. 21)

This finding that literacy transfer across different contexts is very weak is well supported by research, and has led an increasing number of funding agencies and providers to develop

contextualized programs, especially workplace and family literacy programs.

Contextualized learning thus has the advantage of being directly applicable to the desired skills (transfer is not a problem), as well as being intrinsically motivating because of its direct relevance to the learner's situation as well as the transparency of individual progress. There may also be extrinsic motivation built in, in the form of a promise of a job or of promotion, or at least a recommendation from a supervisor. Such factors presumably result in higher attendance and retention rates, and more learning.

While earlier studies of ABE and ESL students suggested that learners' motivation was directed more toward general self improvement than to the acquisition of specific job skills (viz., Beder, p.p. 58-65), more recent data suggest that greater efficiency and effectiveness are associated with contextualized programs. In fact, even the earlier studies to which Beder refers, and which indicated that job advancement was not a primary goal of students in general ABE/ESL programs, found that improved ability to carry out family responsibilities (such as assisting children with their school work) was indeed very high among learners' goals.

Program providers need to have clear goals for what they want to achieve in the limited time that learners are with them.

The strength of contextualized programs can also be seen as their weakness: because the material and work are targeted at a particular domain/context, learners' progress is specific to the material learned; it does not transfer very well to more generalized literacy gain. The conclusion of a carefully designed study of three workplace literacy programs was that:

> The results of this study indicate what can be expected of effective workplace literacy programs. Instruction has produced some improvement in all of the areas assessed, but gains appear to be limited to areas directly addressed in class. There is apparently no transfer of learning into areas not covered by instruction. Because of this, it appears that program providers need to have clear goals for what they want to achieve in the limited time that learners are in class. They should also seek ways to

The practical value and motivational aspects of contextualized programs make them a very attractive and useful alternative to more general literacy programs.

> extend this time beyond the classroom. (Mikulecky & Lloyd, 1993, p.).

Thus it is argued that the appropriate measure of a workplace literacy program, for example, is a test or tests based on the materials which were used in the program, not a general literacy test, on which the learners are likely to show very modest gains, because of lack of transfer from the specific to the general. Clearly the issue is one of purpose: if what is wanted is an increase in general literacy skills for school completion, or for general personal upgrading, then contextualized programs are not the answer. On the other hand, given the problem of attracting and keeping clients in literacy programs, the practical value and motivational aspects of contextualized programs make them a very attractive and useful alternative. As well, they appear to have a significant advantage in that their direct application to the learners' daily life means that the opportunity to extend practice time (through out-of-classroom use) can make a critical difference in the amount of learning that occurs in a given time period.

Workplace Literacy Programs

Workplace literacy programs, like any other literacy programs, cater to a variety of learners, including those with no literacy skills, limited literacy skills, and those who lack oral English (ESL learners). Increasingly, workplace literacy programs are becoming multi-stranded, to cater to that diverse clientele, including ESL classes, classes for those pursuing high school equivalency, basic skills technical courses, etc. But what all strands have in common is the integration of workplace basic skills instruction, and the use of materials encountered in the work setting.

A very significant advantage for targeted programs using materials learners encounter in their everyday work activities is that the amount of time needed for improvement may be decreased by half, to about 50 to 60 hours per grade level instead of over 100. One study found that when military enlisted men taking literacy classes were divided into two groups, the group receiving 120 hours of general instruction

averaged an improvement of .7 grade levels in reading ability, while those trained with workplace materials in the same amount of time improved 2.1 grade levels *when reading work related materials (*not necessarily when reading other materials). (See Mikulecky and Lloyd, 1993, p.p. 4/5.) While there is limited transfer between workplace literacy training and general literacy, it is equally true in reverse. When the intention of workplace programs is to increase job skills, it makes sense to use workplace materials to increase workplace literacy.

Furthermore, targeted, contextualized programs decrease literacy loss over time. New knowledge must be used, or it is lost. Thus, one study found that 80% of the gains acquired in general literacy classes were lost within eight weeks; the exception was when job related materials were used to teach literacy; then gains were maintained, presumably because learners continued to use/practice what they had learned (*Ibid.*, p. 7).

An impressive piece of research on the effects of a workplace literacy program followed over 200 basic skills trainees in the banking industry for 15 years, comparing them to entry level employees with adequate (i.e., high school level) literacy skills. After several months of formal training combined with on the job, supervised clerical experience and counseling, the trainees caught up to the employees in literacy skills. Two thirds of them were placed in jobs, and the majority earned as much as their entry level peers, who had had more education and experience. The trainees also stayed longer on the job, on average, although other opportunities were available to them (Hargroves, 1989, reviewed in Mikulecky and Lloyd, 1993, p.p. 9/10). This program combined study and practical work, and had a counseling component. As well, and characteristic of most workplace programs identified as successful, it included active involvement of workplace partners. This kind of evaluation, based on measured literacy skills in addition to functional or competency based measures, such as the ability to qualify for or obtain appropriate employment, is becoming more common, although longitudinal data of this magnitude is very unusual.

Family Literacy Programs

In their review of workplace literacy programs, Mikulecky & Lloyd (1993, p.p. 34-40) point out that some programs have deliberately or serendipitously had effects on family literacy: on the ability of parents to serve as literacy role models for their children. Sometimes this is a major motivation of learners, even if it is not the primary goal of the employer or the program designers.

Similarly, Beder (1991, p.p. 112-113), reviewing four studies of the impact of general adult literacy classes on clients' families, concludes that "adult literacy education does impact on the family in a positive way", and gives examples, based on self-report, concerning help with homework and talking to children about school.

While there are programs, often run by schools and school boards, whose content and materials are targeted to the context of school, and whose goal is to increase children's literacy potential by increasing parental skills and role modeling abilities for their school-age children, there is almost no evaluative research on the effectiveness of these programs. There are also programs which attempt to increase literacy of parents with preschool children, which often use appropriate story books as their texts. One such program which was evaluated appeared to have an effect on the children's behavior: they attended more closely to stories and to parental instruction (*Ibid.*, p. 39).

An example of a successful intervention made with women most of whom had at least a grade nine education, is an intergenerational literacy program which aimed to positively affect children's prospects by increasing their mothers' skills and self confidence. Between 1988 and 1990, a study was made of nine such community-based programs. Based on self report data by more than 450 clients in these nine sites, and on case studies which included interviews at four of the sites with 48 mothers and with their children's teachers, the researchers concluded that, in addition to substantial literacy gains for the

Family literacy programs in the context of school appear to have great potential for both adult and child literacy. The need for evaluative research is acute.

mothers, 65% of the children demonstrated educational improvements as a result of their mothers' participation in the program. Teachers reported attitudinal and academic improvements, in many cases. Mothers reported that they more often read to their children, took them to the library, talked with them about school, talked with their teachers, helped with school activities and attended school activities. The researchers conclude that:

> Findings from the. . . project challenge the notion that adult education programs intervene too late to solve the nation's education and skill problems. They call for a re-examination and re-investment in the education and training of adult women--especially those with children (Van Fossen & Sticht, 1991, p. v).

While this evaluation is based principally on self-report, which is always subject to inflation of positive responses, it is nonetheless a positive statement about the possible link between mother-child literacy in an intergenerational program. The duration of the programs varied, but tended to be relatively brief and of only moderate intensity.

Family literacy programs in the context of school, using children's books and texts, report cards, school notices, and the like, would appear to have great potential for both adult and child literacy. The likelihood of high motivation is great; so is the natural opportunity to practice the skills being acquired in the home setting. The need for evaluative research is acute.

2.5 Other Factors Correlating With Outcomes

The NEAEP study examines several relationships between program outcomes and other variables and tells us that these relationships are complicated. What is important for ABE learners is not necessarily critical for ESL learners, and vice versa. As for the characteristics that can and do vary among programs, and which are often expected to make a difference, the difference they make depends on who the clientele is, according to the following NEAEP findings:

Staff

- *full time staff (administrative and instructional) made a positive difference in learning gains for ABE learners, but not for ESL or ASE students;*

- *teaching experience / certification in adult education was unrelated to achievement of ESL and ABE clients; it was actually negatively related to learning gains of ASE clients (that is, those who had less experienced / less qualified teachers showed higher gains);*

Support services

- *the provision of support services made a positive difference in retention, but was unrelated to learning gains for all three groups;*

Program structure

- *individualized programming appears to be quite helpful for ABE clients, but not for ESL or ASE clients;*

- *the combination of classroom plus lab work as opposed to either / or was associated with higher gains for ABE learners, but not for the other groups;*

Program costs

- *higher cost was associated with higher gains for ASE and ESL learners, but not for ABE. (The average per hour cost was US $4.57; in an Ontario survey conducted a few years earlier the average cost per hour was $6.66 in Ontario Basic Skills programs offered through colleges, $6.25 in Community Literacy groups, and $13. per contact hour in Basic Skills in the Workplace programs. See Woods Gordon, p.p. 91-92);*

Clients

- *pretest scores, reflecting prior achievement / ability were highly predictive of learning gains for all groups;*

- *number of years of previous schooling was related to achievement for the ESL group only (perhaps reflecting a difference between those with and without first language literacy);*

- *there was a correlation between race and greater gains for ESL and ASE clients, but not ABE (among ESL clients, white learners showed somewhat greater gains; among ASE clients, Asians showed somewhat higher achievement).*

In fact, according to the large NEAEP data set, only one variable (and not a program variable at all) is consistently and substantially related to literacy gains for all kinds of clients: their prior achievement level. That is, the best predictor of what score a learner achieved on the standardized test of basic skills given at the end of the instructional period in the NEAEP surveyed programs was that learner's score on the same test when s/he entered the course. The pretest score is essentially a measure of what students already know and are able to do in the basic skills. Those who know the most at entry gain the most over the hours of instruction. Those who are at a lower level, relative to their peers, will learn less over the same period of time. This relationship accounts for almost half of the variance in scores on the post tests, but it does not speak to what

program characteristics are most effective, or for whom; it simply shows the power of a prior condition, over which program providers have little or no control.[4]

This reality has led some writers to suggest that while many programs have the goal of serving those most in need, it may also be necessary to consider who is most able to benefit. (See Fish and Sampson, 1994, p. 6) Programs of relatively short duration should perhaps not aim at those whose disadvantages are greatest.

A recent review of literacy acquisition programs and results in developing countries (Abadzi, 1994) cites observation-based evidence that classroom processes make a difference: in Nepal, the strongest predictors of achievement were instruction-related (use of materials at an appropriate level of difficulty), followed by teacher-related variables (effective class management, effective use of supervisors [supporters and monitors], participatory teaching and active adult participation, and periodic evaluation. Participant-related variables, such as interest, motivation, and free time were also important, but less so. (See Abadzi, p.p. 9-10)

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[4] This finding is similar to what Beder (1991) described in his review of studies of the effects of adult literacy programs on basic skills:

> It also seems likely that learning gain is differential, that some types of students are more likely to gain than others. The Ohio study, for example, shows a significant relationship between high reading and mathematics scores and income. Similarly, Kent reports that gains in TABE scores were influenced by reading level and gender (p. 112).

Section Three

Conclusions, Recommendations and References

3.1 Conclusions and Recommendations

It is a general truth in education that program evaluation is neglected. There are a number of reasons why this is so: the difficulty of convincing program providers to take time from instruction for evaluation; the difficulties inherent in trying to create a comparison group; the attrition of subjects/learners over time; and teachers'/instructors' lack of expertise in evaluation.

Adult literacy programs add to this set of barriers their own particular and difficult obstacles: the open entry/open exit character of many programs, making it impossible to set aside a specific time for pre-and post-testing; and the reluctance of instructors and clients to engage in an activity which smacks of past failure for the clients.

As a result, we know much less than we need to know about what makes adult literacy programs effective. Findings to date support a very few generalizations:

- Literacy instruction does promote literacy acquisition, but the number of learners who are unsuccessful for whatever reasons, including absenteeism, is high;

- It is probably impossible for a learner to significantly increase her/his literacy skills without a substantial investment of time, amounting to at least 50 hours in the best case and over 200 for ESL learners in general literacy classes;

- The best way to maximize learning time is to extend it, through out-of-class practice, which is most likely to occur if the instruction is keyed to materials and situations which the client daily encounters and needs to master; this is probably also a best strategy for preventing forgetting;

- The most effective instructional methods and learning environments are likely different for different kinds of learners (ABE, ESL, ASE);

- Offering allied services, such as counseling, which clients use, will likely help maintain their attendance.

What we do not know makes perhaps a more impressive list:

- What kind of training should ABE/ESL/ASE instructors/tutors have?

- Under what circumstances does class/group size matter to outcomes?

- Are there best instructional methods for different groups of learners?

- Given that we know that there are many, many more potential clients for adult literacy classes than are ever served, should significant effort be put into increased outreach? Or, would there be more of an impact by putting limited resources into maximizing the effectiveness of instruction for those clients who find their way to literacy instruction, rather than expending efforts and moneys on outreach to the majority of low literate adults, who are unserved?

- How can general literacy programs be made to fit clients' daily lives such that their application increases both motivation and practice?
  Or, should more contextualized (workplace, family, other) literacy programs be offered, and fewer general programs (with the exception of those which are targeted at a secondary diploma or equivalent)?

- Given that it is apparently possible to accomplish more in less time in these contextualized programs,

does that merit making some targeted decisions about where to put resources? Or, would doing so tend to deprive potential learners of access to general literacy programs that might come closer to meeting their general life goals? Would offering more contextualized classes also satisfy Beder's (1991) recommendation that:

> In order to serve a greater proportion of the adult literacy target population, recruitment and instruction should be tailored to specific client group needs, wants, and motivations (p. 145).

Both the literature and simple logic suggest that isolated program evaluation--each program doing its own thing (or nothing)--is not the way to arrive at answers to questions that all literacy providers have.

The issue of program evaluation by itself raises important questions. It is highly unlikely that the concern for outcomes-based evaluation will weaken, given increasingly scarce resources. Nor, we argue, should it: how else can we begin to find answers to the important questions listed above? But how to go about it is a major question by itself. Both the available literature and simple logic suggest that isolated program evaluation--each program doing its own thing (or nothing)--is not the way to arrive at answers to questions that all literacy providers have. It is essential to be able to compare programs, by having some common evaluation tools. Program providers often and quite understandably fear such comparisons, which can be used to end programs inappropriately: too soon, on the basis of too little data. But the best (and probably the most likely) use of common evaluative data is not to terminate, but to improve programs.

A recent initiative in Ontario, the Recognition of Adult Literacy program (RAL), is an attempt to organize a method for assessing individual learner progress uniformly in all adult literacy programs in Ontario, making movement from one to another easy for clients, and giving recognition (in the form of certificates) for achievement of each of a number of levels of literacy.

Such a system requires systematic and uniform assessment tools. Work is underway on a diagnostic intake instrument, which all service providers could use to help place learners.

As well, there must be uniform instruments to measure learner outcomes; and there is currently discussion of a portfolio of learner work, to be judged by trained assessors. The advantages of portfolio assessment are many: it allows for different materials, judged important by the learner and by the instructor, to be judged on the same criteria; and it becomes a portable exhibition which the learner can share with potential employers, admissions officers, and others. But the disadvantages are also very real: substantial training has proven inadequate to insure consistency across assessors. (The state of Vermont has had the most experience in this area, and is continuing to work to overcome the problems which have so far made portfolio assessment unreliable in their educational system.)

Ultimately, the goal of adult literacy and basic education must be to to become redundant.

Perhaps it is important for policy makers and program developers to also give serious consideration to some standardized assessment measures, in addition to individual, portfolio work. Whether such measures should be existing adult literacy tests, such as the TABE or ABLE or, in the case of ESL learners, the CASAS; or existing literacy tests developed for school age populations, such as the CAT; or whether they should be generic tools like cloze tests which can be adapted to different materials which are graded by level of difficulty, so that they more closely resemble the content of the program, and function as competency as well as general literacy measures, are questions that can be addressed once the decision is made to include some such measures. Other questions might include the frequency with which such assessments are done; are time intervals established in advance (e.g. every 25 hours), or is assessment done when the client and/or instructor feels a level has been reached?

The biggest question that can be asked about adult literacy programs at the local, provincial, or national level is: are these programs succeeding in lowering the number of adults who have insufficient literacy skills? Ultimately, the goal of adult literacy and basic education must be to self-destruct; to become redundant. While that is perhaps less realistic wherever immigration is a major factor contributing to literacy rates, it is nonetheless the large rod against which success must be

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measured. When the periodic Statistics Canada surveys are done, do we see a trend toward fewer and fewer adults at Levels 1 and 2, and an increasingly large majority at Level 4? While such questions must seem very remote to individual service providers, it is unwise ever to forget what all the effort is finally about.

There are an extraordinary number of goals and achievements of adult literacy programs. They can and do alter self-concept, create helping networks, reduce absenteeism, and equip people for better jobs. But if they do not also improve reading and writing skills, they fail to meet their essential mandate. If improved self-concept or networking or attendance or job qualification were the only or the principal goal of a program, it is not inevitable or even clear that literacy instruction would be the most efficient means. An interesting case in point is work with prison populations (Ross, Fabiano & Ross, 1988), which strongly suggests that very important cognitive development goals can be met without literacy instruction (and presumably without literacy increases, though they were not measured), in a low literate population.

But if the primary function of literacy programs is to increase adult literacy, then it is obviously necessary to seek sound answers to two central questions: what are the best ways to help adults become literate and what is the evidence?

References

Abadzi, H. (1994) What we know about acquisition of adult literacy. Is there hope? World Bank Discussion Papers, 245. Washington, D.C.: The World Bank. ED 373 264

Balmuth, M. (1986) Essential characteristics of effective adult literacy programs: A review and analysis of the research. Brooklyn, New York: Kingsborough Community College. ED 273 823

Beder, H. (1991) Adult literacy: issues for policy and practice. Malabar, Florida: Krieger Publishing Co.

Chall, J.S., Heron, E., & Hilferty, A. (1987) Adult literacy: new and enduring problems. Phi Delta Kappan 69 (3): 190/195.

Development Associates, Inc. (1992) National evaluation of adult education programs, first interim report: profiles of service providers. Washington, D.C.: Office of Policy and Planning (ED). ED 354 371

Development Associates, Inc. (1993) National evaluation of adult education programs, second interim report: profiles of client characteristics. Washington, D.C.: Department of Education. ED 364 125

Development Associates, Inc. (1994) National evaluation of adult education programs, third interim report: patterns and predictors of client attendance. Washington, D.C.: Department of Education, Office of the Under Secretary. ED 369 996

Fingeret, A. (1984) Adult literacy education: current and future directions. Columbus, Ohio: ERIC Clearinghouse on Adult, Career, and Vocational Education. ED 246 308

BEST COPY AVAILABLE

Fish, S. & Sampson, L. (1994) ReDirection: Options for policy and practice in adult literacy in Washington State: Effective practices. Olympia, Wash.: Washington State Board for Community and Technical Colleges. ED 374 279

Hayman, B. & Sussman, S. (1986) The Future of Performance Appraisal for Certificated Education Staff in the School Boards of Ontario. Toronto, Ontario: Ontario Ministry of Education.

Kitz, W.R. (1988) Adult literacy: a review of the past and a proposal for the future. Remedial and Special Education 9 (4): 44/50.

Kutner, M.A., Sherman, R.Z., Webb, L., & Fisher, C.J. (1991) A review of the national workplace literacy program. Washington, D.C.: U.S. Department of Education, Office of Planning, Budget, and Evaluation. ED 333 199

Lerche, R.S.(1985) Effective adult literacy programs: a practitioners' guide. New York, New York: Cambridge Book Co.

Literacy Ontario (1995) Framework and quality standards for adult literacy education in Ontario. Toronto: OTAB/COFAM.

Lord, J.E. (1994) Adult literacy programs: guidelines for effectiveness. Washington, D.C.: Office of Research and Office of Educational Research and Improvement, U.S. Department of Education.

Mikulecky, L., Albers, P., Peers, M. (1994) Literacy transfer: a review of the literature. Philadelphia, Pa.: National Center on Adult Literacy, University of Pennsylvania.

Mikulecky, L., Henard, D. & Lloyd, P. (1992) A guidebook for developing workplace literacy programs. Bloomington, Ind.: Indiana University School of Education, the Indiana Model Workplace Literacy Program. ED 348 580

Mikulecky, L. & Lloyd, P. (1993) The impact of workplace literacy programs: a new model for evaluating the impact of workplace literacy programs. Philadelphia, Pa.: National Center on Adult Literacy, University of Pennsylvania.

Mikulecky, L. & Lloyd, P. (1993a) Evaluation of workplace basic skills programmes. Leichhardt, New South Wales, Australia: Adult Literacy and Basic Skills Action Coalition.

Office of Policy and Planning (ED) (1992) Transforming American education: a directory of research and practice to help the nation achieve the six national educational goals. Washington, D.C. ED 348 775

Office of Vocational and Adult Education (ED) (1992) Workplace literacy: reshaping the American workforce. Washington, D.C.: National Workplace Literacy Program. ED 347 354

Ross, R.R., Fabiano, E.A., and Ross, R.D. (1988) (Re)habilitation through education: a cognitive model for corrections. Journal of Correctional Education 39 (2): 44-47.

Steele, C. and Aronson, J. (1991) Stereotype vulnerability and Afro-American intellectual performance. In E. Aronson (ed.), The Social Animal, p.p. 409-421. New York: W.H. Freeman and Company.

Sticht, T.G. (1990) Testing and assessment in Adult Basic Education and English as a Second Language programs. San Diego, Calif.: Applied Behavioral & Cognitive Sciences, Inc.

Van Fossen, S. & Sticht, T.G. (1991) Teach the mother and reach the child: results of the intergenerational literacy action research project of Wider Opportunities for Women. Washington, D.C.: Wider Opportunities for Women, Inc.

Watters, E. (1995) Claude Steele has scores to settle. New York: The New York Times Magazine, Sept. 17, 1995, p.p. 45-47.

Woods Gordon Management Consultants (1990) Evaluation of literacy and basic skills initiatives. Toronto, Ontario: Ministry of Skills Development.

Wrigley, H.S. (1993) Adult ESL literacy: findings from a national study. ERIC Digest ED 365 169

Wrigley, H.S. & Guth, G.J.A. (1992) Adult ESL literacy: state of the art 1990. San Mateo, Calif.: Aguirre International.

Young, M.B., Fitzgerald, N. & Morgan, M.A. (1994) National evaluation of adult education programs, fourth report: learner outcomes and program results. Washington, D.C.: U.S. Department of Education, Office of the Under Secretary.

Young, M.B., Fleischman, H., Fitzgerald, N., & Morgan, M.A. (1994) National evaluation of adult education programs: Executive summary. Washington, D.C.: U.S. Department of Education, Office of the Under Secretary.

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